

## ABSTRACT OF THE DISCLOSURE

An angle detector 25 detects a rotor angle  $\theta$  of a DC brushless motor 1 using a current value  $I_{u\_s}$  detected by a U-phase current sensor 23 and a current value  $I_{w\_s}$  detected by a W-phase current sensor 24 when high-frequency voltages  $v_u$ ,  $v_v$ ,  $v_w$  for detecting a rotor angle are applied by a high-frequency adding unit 21. The high-frequency adding unit 21 determines the high-frequency voltages  $v_u$ ,  $v_v$ ,  $v_w$  so that the direction of rotation of the motor 1 and the direction of a revolving magnetic field generated by the high-frequency voltages  $v_u$ ,  $v_v$ ,  $v_w$  will be opposite to each other. A three-phase/dq converter 26 converts the current values  $I_{w\_s}$ ,  $I_{u\_s}$  into a detected d-axis current  $I_{d\_s}$  and a detected q-axis current  $I_{q\_s}$  using the rotor angle  $\theta$  detected by the angle detector 25.